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## Self-Induced Formaton of Metal-Rich Globulars in Bulges?

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**Abstract.** Taken together, key latest observations assume that (i) **old** metal-rich globular cluster populations (MRGCPs) in bulges were able to form due to essentially increased, self(internally)-induced star formation rate (SFR) in the hosts, while galaxy merging played an additional role; (ii) massive star cluster populations (MSCPs) in irregulars may be young, less prominent counterparts of the old MRGCPs in spheroids.

### 1. Formation of MRGCPs in sheroids and MSCPs in irregulars

Data on high redshift galaxies and QSOs, supermassive black holes, redshift evolution of QSO emissivity, elemental abundances, etc. assume that the more massive spheroid, the shorter timescale of its formation (e.g., Granato et al. 2001). The metallicity distribution functions (MDFs) for the disk stars of the LMC and for the old red giants in the halos of elliptical NGC 5128 and spiral M31 are virtually identical (Harris & Harris 2001). Surprisingly enough that the most probable metallicities of the MSCPs in the LMC and other irregulars preferably fall (as metallicities of MRGCPs and of metal-rich components of the MDFs do, too) between  $0.004 < z < 0.008$ , irrespective of presence or absence of signs of interaction (Billett et al. 2002; de Grijs et al. 2003, among others). In addition, for a sample of BCD galaxies Hopkins et al. (2002) find a positive correlation between galaxy metallicity (oxygen abundance) and SFR. The above-mentioned imply that the formation of both the MRGCPs in spheroids and MSCPs in irregulars may be preferably related to certain stage of the host's (chemical?) evolution, at which the SFR in the hosts increases essentially.

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### References

- Billett, O. H., Hunter, D. A., & Elmegreen, B. G. 2002, AJ, 123, 454
- de Grijs, R. et al. 2003, MNRAS, 343, 1285
- Granato, G. L. et al. 2001, MNRAS, 324, 757
- Harris, W. E., & Harris, G. L. H. 2001, AJ, 122, 3065
- Hopkins, A. M., Schulte-Ladbeck, R. E., & Drozdovsky, I. O. 2002, AJ, 124, 862